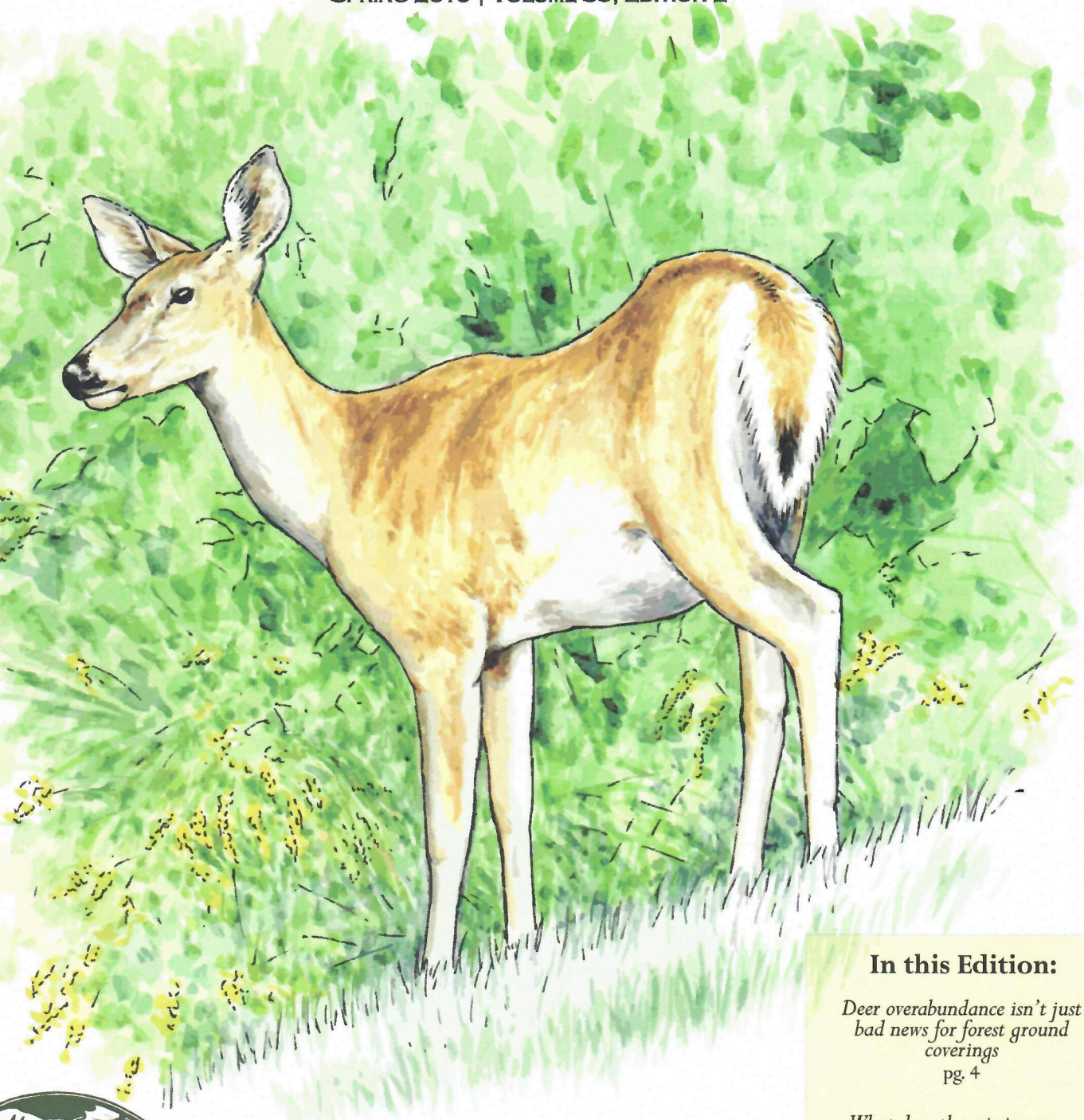
HUYCK PRESERVE

Deer and the Downfall of Eastern Forests

SPRING 2016 | VOLUME 39; EDITION 2



In this Edition:

Myosotis Messenger

A message from the Executive Director

I talk a lot about our science-based field education programs. When you're in the business of inspiring and training the next generation of researchers and scientists it's hard to keep quiet about curricula that are lauded by teachers for bringing "(classroom) studies into a comprehensible light." In fact, I don't want to keep the secret that students love learning cool concepts and hand-on methods like "more trees of different kinds (biodiversity) produce healthier forests" and how to mark a crayfish with nail polish for population studies. Of course, when you spend so much time letting local schools and communities know about great opportunities in science and research for K-12 students, you start to get popular. A program that three years ago hosted about 120 students a year now regularly connects over 500 students with the natural environment through science-based field programming. I am of course ecstatic that the Huyck Preserve is becoming a valued science-education resource for the region. Again, we're training the next generation of researchers and scientists! Perhaps not all of these students will, in the immortal words of Ms. Frizzle from the PBS science education program The Magic School Bus, go off to, "Take chances, make mistakes, get messy!" but maybe two or three will take up the mantle. I like to think that the students involved in our school field trip and summer education programs are the ones who will find the solution to the next tropical disease outbreak after Zika is a distant memory. These students will ring the alarm and lead the investigations if and when we are faced with a water crisis like that in Flint. Students observing Preserve forests and evaluating biodiversity may even be the ones to make big strides in mitigating some of the effects of climate change.

"Oh, no," you say, "Not climate change again!" Yes, climate change. Don't pretend you haven't noticed this super mild winter and crazy up-and-down spring. T-shirts two days before Christmas?!!? No snowshoeing?! Juncos nesting a whole month early!!?? Certainly, some of our winter wildlife have suffered this year from the lack of chill (page 8) and warmer temperatures are doing nothing to aid the reduction of exploding deer populations (page 4), but I am not of the doom and gloom mindset just yet. Thanks to support from the Bender Scientific Fund of the Community Foundation of the Greater Capital Region, budding student scientists this spring and summer will have spiffy new digs and some state-of-the-art equipment to assist them in their field-based science lessons and investigations. What fresh new hypotheses will be developed as we take a closer look at water samples under our new digital microscopes? What discoveries will be made about forest regeneration with the ability to estimate canopy cover with a new fish-eye lens and camera? The possibilities of exploration this spring and summer are endless and I honestly can't wait to welcome this new crop of students.

I am also very excited to bring your attention to two events the Huyck Preserve is co-hosting this year with the Rensselaerville Library. In April, get your snaps on at our "Wild Minds: Nature Poetry" event. Featuring original work by regional poets as well as readings of well-known poets, this poetry reading is sure to inspire nature and poetry lovers alike. Later in June, throw on some running shoes and join us for the Rensselaerville Ramble and Forest Festival. In the morning, a 2-, 5-, or 8-mile fun(draising) walk/run featuring the gorgeous backdrop of our Partridge Path Loops. In the afternoon, stick around for a celebration of recreation and science education on the shores of Lincoln Pond. We promise a day of fun and learning for the whole family, even non-runners! That's right, if running is not your thing, I encourage you to get involved as a volunteer. We're looking for people to assist with sponsor soliciting, trail clean-up, table water stations, directing traffic, and cheering on runners. Interested volunteers should contact ***outreach@huyckpreserve.org*** to get involved.

Of course everyone reading this missive should already be involved as a Huyck Preserve member but if you're not, join now! Membership supports everything the Preserve does from educating students to keeping our trails open and beautiful to preserving this breathtaking landscape forever. –See you on the trails!

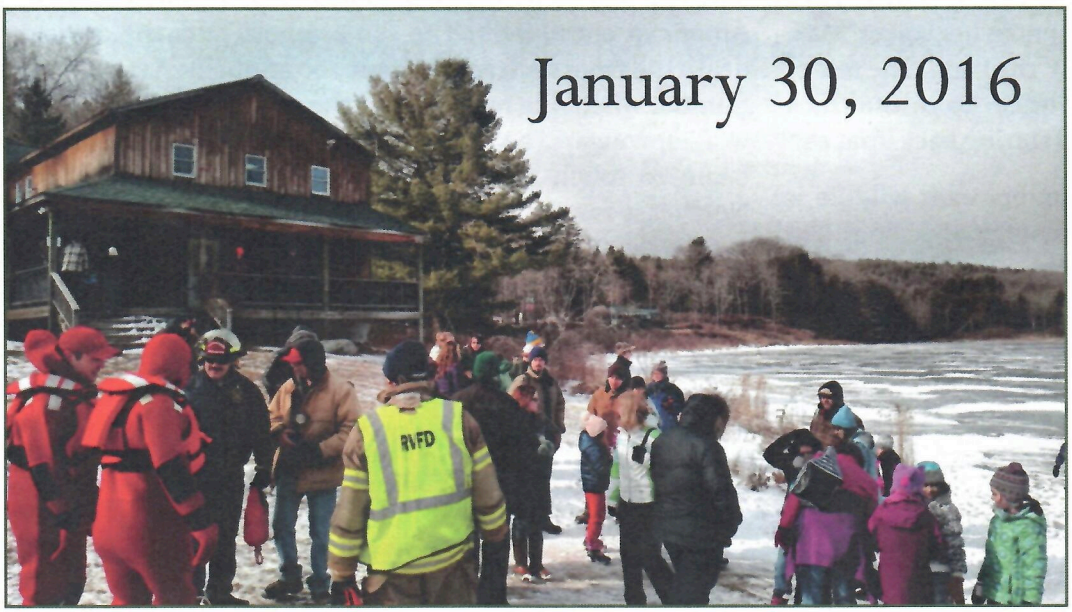
- Dawn O'Neal, Ph.D.

Huyck Preserve Education Campaign

A key part of the Huyck Preserve's mission is promoting the understanding and preservation of nature though innovative science-based field educational programs. The Preserve offers science field-trips where students use the Preserve as an outdoor laboratory, reviewing classroom knowledge about ecosystems in order to understand how organisms co-exist in nature. **But to connect more students to this vital resource, we need your help!** With more schools cutting funds for field trips, the Huyck Preserve School Field Trip Fund allows us to take the burden off of teachers and schools and give more students the opportunity to engage in hands-on lessons outside.

To find out how to contribute to this campaign, call our office at **(518)797-3440** or email **info@huyckpreserve.org**.

Winter Festival



Despite the lack of snow, fun was had by all at the 2016 Winter Festival! Appearances were made by several local businesses and organizations, and The Rensselaerville Fire Department made an exciting display of their ice-rescuing skills!

Thank you to everyone that came out to enjoy this festive winter celebration, and a special thanks to the following businesses and organizations:
Naturelogues, S2 Stationery and Design, Sheepy Valley, Sadie's Suitcase, Greenville Drive-In, Capital Region Audubon Society, Rensselaerville Library, Rensselaerville Fire Department, Healthy Zone Activity Cruiser SUNY Cobleskill Student Chapters of Ducks Unlimited and The Wildlife Society, Outpost #4 Rehabilitation Services, Heather Ridge Farm

Above and below, guests and fire crew prepare for the ice-rescue demonstration. Thank you Rensselaerville Fire Department for braving the cold water!

We were able to take advantage of the clear lawn and cool weather by toasting s'mores and warming up by a bon-fire!

There was still enough snow for spotting animal tracks! Do you know what the tracks are to the left?

Ice conditions were perfect for skating and ice fishing demonstrations. With the pond free from snow, guests were able to skate nearly every inch!

Deer and the Downfall of Eastern Forests

Max Calloway

"Max... Max..." The student was whispering, barely able to contain the excitement in her voice. "Max, there is a baby deer right off the trail." The rest of the students quickly rushed over. Curled up in the thick brush was a fawn, shaking slightly and staring back up at us.

Having such intimate encounters with wildlife is essential inspiration for a career in biology or ecology. For many, these first encounters come in the form of spying deer as they pick their way through the forest nibbling on branches, eyes and ears constantly alert to any sign of danger. However, these days *Odocoileus virginianus* – the white-tailed deer – has little to worry about. In fact, thanks to the near total eradication of large predators along with anthropogenic aid, white-tailed deer population densities, after having been reduced to relict populations, exploded to unprecedented levels [1].

While more Bambi might sound like a naturalist's dream, the realities are much more worrisome.

Of historical disturbances common to eastern forests, no single factor has negatively influenced forest regeneration more than white-tailed deer grazing. Even plant species well adapted to grazing pressure are suffering from the constant nibbling[4]. The ground left behind after intense grazing is often barren and disturbed, perfect for invasive plant species whose dispersal is aided by deer foraging habits. While hardwood species can bounce back if given enough time, forest herb populations are less likely to recover even when grazing pressure is removed for several years[5]. As a result, more and more eastern forests are being converted to maple and fern deserts – yes they are green and shaded but they are devoid of biodiversity.

Deer favor understory shrubs and saplings but are not the only ones. Many species of woodland songbirds rely on understory species for nesting, shelter and protection. As a result, deer are exacting a heavy toll. According to the data, "of the 310 forest-breeding species in the United States 22% are declining. Over the past 40 years declines occurred mainly in eastern forests"[1]. While researchers do admit that deer grazing is just one element effecting bird populations across the continent, the correlation between higher densities of deer and lower numbers of birds cannot be ignored.

Increases in deer populations are not just jeopardizing the sweet scent of wildflowers and the plaintive calls of songbirds; they also have significant economic and health impacts.

In 2011 alone 1.23 million deer-vehicle collisions were reported with a bill totaling more than $4 billon for American consumers. The same report puts the average death toll from such accidents at 200 annually. A staggering number when one realizes that the annual death toll from wolves, cougars, bears and sharks combined do not even begin to touch this figure[2]. Even more worrisome, the Northeast is currently in the middle of a Lyme epidemic. While deer are not the original host for the *Borrelia burgdorferi* bacteria responsible for the infection, they are a much more effective vector for spreading infection bearing ticks over longer distances and in larger numbers than smaller mammals and birds.

None of this is to say that there is no place in eastern forests for these graceful ungulates. White-tailed deer are, after all, native species and serve a variety of essential ecosystem functions. However, current management plans are allowing them to run unchecked as they spread disease and irrevocably alter the forested landscape. While agencies work towards a solution, it's up to the public to change the dialogue around deer policy. We need to start looking at these animals as what they really are: not a symbol of ecological fertility, not a fragile woodland creature that needs to be coddled and protected like a family pet, but an integral part of a complex system – a system that we have knocked far off balance by fragmenting habitat and eradicating natural checks to population size.

The day after we saw the fawn on the side of the trail, my fellow teaching assistant brought me not 100-meters from the house. Lying in a ditch along the side of the road was the fresh corpse of a doe. "Think this was that fawns' mom?" We had no way to know, but in reflecting on the possibility, I realized that even deer lose out when populations are allowed to balloon out of control.

-Max Calloway is a journalist and field ecologist. He joined the Preserve during the summer of 2015 as a Residential Coordinator / Field Teaching Assistant with the Wildlife Ecology Research Program. He currently lives in Port Angeles, WA where he works for the Olympic National Park monitoring spotted owls and fisher cats. He can be reached at maxcalloway@gmail.com.

1. Chollet, S., &Martin, J. (2012). Declining Woodland Birds in North America: Should We Blame Bami? *Diversity and Distributions, 19, 481-483.*

2. Insurance Journal (2012 October 24). Car and Deer Collisions Cause 200 Deaths, Cost $4 Billion a Year. *Insurance Journal.* Retrieved from http://www.insurancejournal.com/news/national/2012/10/24/267786.htm.

3. Knight, T.M., Dunn, J.L., Smith, L.A., Davis, J., & Kalisz, S. (2009) Deer Facilitate Invasive Plant Success in a Pennsylvania Forest Understory. *Natural Areas Journal, 29, 110-116.*

4. Nuttle, T., Royo, A.A., Adams, M.B., & Carson, W.P. (2013) Historic Disturbance Regimes Promote Tree Diversity Only Under Low Browsing Regimes in Eastern Deciduous Forest. *Ecological Monographs, 83, 3-17.*

5. Webster, C.R., Jenkins, M.A., & Rock, J.H. (2005). Long-term Response of Spring Flora to Chronic Herbivory and Deer Exclusion in Great Smoky Mountains National Park, USA. *Biological Conservation, 125, 297-307.*

Wild Minds:

Nature Poetry with the Huyck Preserve and Rensselaerville Library

Nature poetry can help us remember our connection to our environment. Many nature poets celebrate natural beauty or describe personal responses to experiences in nature. Others confront environmental devastation and injustice. Possibly the most important reason to read, write or listen to nature poems is that they remind us to pay attention to our world. They call on us to use all our senses to discover aspects of wildness inside ourselves.

In honor of April's National Poetry Month and Earth Day on April 22, we have teamed up with the Rensselaerville Library to bring you ***Wild Minds: Nature Poetry.*** This event, held on **Saturday April 23rd at Eldridge Research Station from 3-5pm**, will feature poetry from over 15 local poets along with some light refreshments. Below and right, peruse some of the fine work from some of the poets you will hear at ***Wild Minds!***

Collaboration

Linda Sonia Miller

An emptiness greets this dawn
barely lightened from the night before
its rain-filled, thundering presence

Inside as well, a dark overhanging
and restlessness drive me from home
into the drab morning woods

lake lost in fog, a memory only until
around a bend a solitary goose
floats into sight.

Beneath a bare-limbed, half-dead
maple hung with spider-woven
lanterns, a deer

completely still, body turned
for getaway, head glancing back
at me - eyes unblinking, ears alert.

I stare, with some slight fear
one so primal but in its element
and I encumbered, clearly the visitor

yet in that moment, eye to eye
we are collaborators of a sort
she so dignified in stance

so graceful in flight, while I
read her body to suit my needs
trudge home restored

Today

Tom Corrado

The world . . . calls to you like the wild geese, . . .
- Mary Oliver

to celebrate . . . I went . . .
to the woods . . .
some snow still . . .
the creek's gurgle . . .
the trees . . .
and then above . . . wild geese . . .
return . . .
harsh and exciting . . .

Grace

Katrinka Moore

A fallow afternoon: hot;
slow clouds, unruffled
pond. Bird calls circle
outside of harmony, over-
lap, interlace. Sometimes
a solitary song slips
through. Grace

unweighed, porous and
buoyant (birds' airy
bones). Uncalled, comes
anyway. The voices fall

off and there's only a hum, so
low — soft — we hear it as
silence. But that happens after.

A Sign

Dawn Marar

No longer called Wahcoloosencoochaleva—
The Great Carrying Place—is known as Fort Edward.
A sign sports an image of a white man in Western attire,
sturdy legs flanked by trees and rocks, holding canoe aloft,
reminiscent of an elongated beaked headdress;
and the bare-chested torso of a Native American Indian,
with braids, and a feather in his mohawk, a palm raised.
Might he have been posing a question?
If he did mean 'how,' could he have meant,
"How can you take our land?" In the beginning
I suppose he could've meant 'hi'
like the Welcome to beneath his feet.

Hummingbird

Diane Sefcik

Once a year
I am captured
by a hummingbird

Hovering
black needle
an inch from my eye

He fixes me
with tiny black rivets
soul to soul

Fierce
commanding
beloved
friend

Recreating at the Huyck Preserve

- 2016 Calendar of Events -

It's never been a better time to experience outdoor recreation with the Huyck Preserve! We're pleased to announce several new events and recreation opportunities to keep your mind and body healthy, from nature-themed poetry, a trail-running event, and even hula-hooping at Lake Myosotis! Check out the calendar below and spend your summer with us!

More details about each event can be found by visiting our website at **www.huyckpreserve.org**

April

Saturday, April 23 | 3-5pm

Wild Minds: Nature Poetry at Eldridge Research Station

In collaboration with the Rensselaerville Library and just in time for Earth Day, come listen to nature-themed poetry read by poets and participants around the region!

June

Saturday, June 11 | 10am

Volunteer Trail Clean-Up

Help us get the trails in pristine order and preview the trail for the following weeks event!

Saturday, June 18 | 9am-3pm

Rensselaerville Ramble & Forest Festival

Ramble: *This new event, in collaboration with the Rensselaerville Library, will bring participants over 2-, 5-, or 8- miles of hills and forests on Huyck Preserve trails. This event is suitable for people of all ages!*
***(Register at:* www.raceentry.com/race-reviews/rensselaerville-ramble-trail-run-and-walk)**

Forest Festival: *Celebrate outdoor recreation and education with a special new festival that will include a sampling of our summer education programs, recreation opportunities, local eco-friendly businesses, and so much more!*

Saturday, June 25

Lake Myosotis Beach opens!

This day marks the opening of the lake and also represents the day beach passes become available to the full membership, regardless of residence. Passes are offered based on availability. If you're interested in purchasing a beach pass, contact Emileigh at membership@huyckpreserve.org

July

Saturday, July 9 | 2pm

Annual Membership Meeting and Guided Hike

Meet with staff and board members to get updated on progress at the Huyck Preserve!

August

Saturday, August 6 | 1pm

34th Annual Science Symposium

Keynote speaker, Researcher Presentations, and a Wine and Poster Session of 2016 WER students. More details coming soon.

Saturday, August 13

Annual Benefit Gala at Lincoln Pond

5:30 Cocktails

6:30 Dinner

Fine auction items, breathtaking views of the Pond at dusk, and excellent star-gazing opportunities!

October

Saturday, October 29 | 5pm

Special Halloween-Themed Membership Dinner and Hike

Join us for a spook-tacular night at the Preserve with our exclusive Annual Membership Appreciation Dinner! Specially themed for Halloween, guests are encouraged to come in costume and participate in a family-friendly hike around Lincoln Pond in the eerie evening light.

Ongoing programs at the Huyck Preserve

Join us for one of our weekly or bi-weekly programs! More programs such as guided hikes will be added as they're scheduled. Check our Facebook and website for updates and changes.

New Hula-Hooping for Health and Happiness

Every other Thursday at 6pm starting June 9th, meet at Lake Myosotis by the boat racks for a fun evening learning the playful art of hoop dance. Suitable for all ages, a limited number of weighted hoops are available. Bring your own if you have one!

New Huyck Hikers

Beginning May 14 and following every other weekend, join us at 8am for a moderate fitness hike ranging from 3-5 miles. All hikes will begin at Eldridge Research Station unless otherwise noted. Dates and times subject to change due to weather. Check our social media and website for updates.

Dates:
May 14
May 28
June 11
June 25
July 9
July 23
August 6

Swim Lessons

One of our oldest programs, the Huyck Preserve has been teaching local residents and guests to swim since the '40's! This program meets Monday, Wednesday and Friday for two weeks during the summer to help get your little one acquainted with the water world or to teach basic swimming skills to beginner-level swimmers. Choose between two concurrent sessions:

Session I: July 11 - 22, M-W-F
Session II: June 25 - August 5, M-W-F

Thursday Night Lecture Series

Join our resident researchers and Scientific Advisor for an informative and engaging evening on a diverse range of topics. More information on program topics soon.

Dates:
June 23
June 30
July 7
July 14
July 21
July 28
August 4
August 11

Wildlife Family Hour

Back by popular demand, join Kelly Martin on Tuesday mornings from 10am - 12pm for an introduction to wildlife by getting up-close with her rehabilitated animals and short nature walks!

Start Date: Tuesday July 12

Summer Education

Nature Study
Grades K-2: July 25-29
Grades 3-5: July 18-22
Learn more:
www.huyckpreserve.org/ns

Natural History Day Program
July 11-15
Learn more:
www.huyckpreserve.org/nhdp

Wildlife Ecology Research
July 17 - August 7
Applications due May 6
Scholarships Available!
Learn more:
www.huyckpreserve.org/wer

*Registration required for our **Nature Study**, **Natural History Day Program**, **Wildlife Ecology Research** and **Swim Lesson** programs. Registration forms available on our website at www.huyckpreserve.org/summer-programs and www.huyckpreserve.org/lake-myosotis, or call the Main Office at (518)797-3440

A Snowless Winter Wonderland

A heavy blanket of snow is a typical winter sight at the Preserve, yet this winter has seen no major snowfall events. What does the missing snow mean for our forests habitats?

Christina McLaughlin, Conservation and Outreach Coordinator

If you're like a lot of Upstate New Yorkers this year, you're probably enjoying this winter's unusual lack of snow. Your back is probably happy from not shoveling, and maybe you haven't had to buy as much sand and salt this year for walkways. But if you're an avid skier, snowshoer, or snow-mobiler you're probably pretty disappointed by this winter. Or maybe, like me, you're just tired of the dreary brown-gray landscaping and missing the sparkling white of new fallen snow. Whether this snow-less winter has made your year or left you feeling bluer than usual, you might think that such a mild winter is great for the wildlife.

Surely the lack of snow makes it easier for creatures to survive through the spring?

Unfortunately, for a lot of species, that isn't the case. Our northern species are specially adapted to the cold and the snow, which means warm winters can be a real struggle. And it's a struggle that is a growing problem: in the US, the annual snowpack has seen a 23% loss, on average, since 1955[1]. This year in particular has set all sorts of new records – from the warmest months to the lowest levels of Artic sea ice[2].

The snow acts like an insulating blanket upon the ground, providing a warm space for a large diversity of species. The subnivean (literally 'below snow') zone is formed in two parts. One, frozen plants and branches hold up the snow from the ground creating tunnels and holes in the snow pack. Two, the snow on the ground itself sublimates – that is, it changes from solid into gas without melting into a liquid – and the water vapor rises to the bottom layer of snow, where it refreezes into tighter packed ice crystals. These packed ice crystals are stronger, and hold up the snow above, creating a thin space of air between the snow pack and the ground.

Once the snow pack is deeper – around 6-8 inches - this space will hold a consistent temperature within a degree or two of freezing[3]. That may still sound cold, but it means the difference between life and death for a lot of creatures. The snow also provides shelter from the wind and ice above, offering a fairly consistent ecosystem without day to day weather changes.

If you tend to think of most animals sleeping soundly through the winter, you're not alone. The world under the snow in the Northeast isn't well studied – and research is under way to look at this aspect of Northeastern forests[4]. We do know many creatures are active throughout the season in this space beneath the snow. Voles and mice search for seeds in the leaf litter, digging in the soil and the snow, creating systems of tunnels and burrows you can see as the snow melts in the spring. It isn't safe under the snow since predators including fox, owls, and weasels are all able to find their dinner under the white blanket. It's only as the subnivean zone is shifting under the pressures of a changing climate that scientists are beginning to look at its importance[4]. The space beneath the snow isn't just important for larger animals, it's also critical to the millions of microbes that live in and on the soil. The subnivean zone keeps the ground from freezing solid, and soils which freeze regularly behave differently than those that don't, and support different ecosystems. Think of the habitat differences between our deciduous forests and the Canadian tundra. Frozen soil causes frost heaves, lifting the ground and damaging seedlings. Regular freezing of

Snowfall comparison, March 2014

Snowfall comparison, March 2015

Snowfall comparison, March 2016. Note the unusually early emergence of the painted turtles at Lincoln Pond

soils causes all sorts of ecosystem changes, from altering the nutrient cycle, changing decomposition speeds, and damaging the roots of trees and plants[5], [6].

It's hard to study the changes different snowpack levels might cause, and predicting the impacts of the changing climate is even more difficult. How deep the soil freezes is a result of a complex interaction of factors, including how warm the air is and how much precipitation falls. Warmer winters might keep the soil from freezing any deeper than it does with snow, while mild, shorter winters will shorten the length of the freeze. This may limit the impacts of the loss of snowpack on Northeastern forests[6].

The missing snow pack doesn't just mean we have trouble hosting a winter festival, it means the loss of a critical part of the deciduous forest habitats of the north eastern US. No snow means less protection from the cold for small mammals and insects. No snow means the ground freezes solid, impacting the microbes and plants that grow in it. So while you're celebrating not needing to shovel out your walkway this winter, remember that snow is an important part of our ecosystems in the Northeast, and maybe don't wish away those snowflakes so fast!

1: Climate change indicators in the United States: Snow and Ice. From http://www3.epa.gov/climatechange/science/indicators/snow-ice/index.html

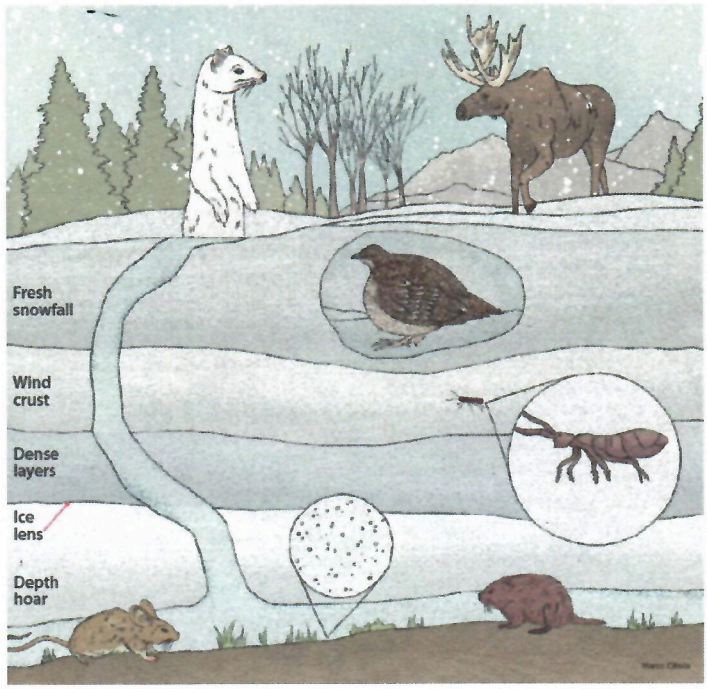
2: Mooney, C. 2016. "The Arctic just set an ominous new record." *The Washington Post.* Available online: https://www.washingtonpost.com/news/energy-environment/wp/2016/03/02/the-ridiculously-warm-arctic-just-set-another-ominous-record/

3: Mackay, B. 2014. The Subnivean Zone: Shelter in the Snow. From: http://northernwoodlands.org/outside_story/article/subnivean-shelter-snow

4. Gillespie, A. 2016. "There's a secret world under the snow, and it's in trouble." *Smithsonian Magazine.* From: http://www.smithsonianmag.com/science-nature/secret-world-under-snow-trouble-180957946/

5: Reinmann, A.B. and P.H. Templer. 2016. "Reduced Winter Snowpack and Greater Soil Frost Reduce Live Root Biomass and Stimulate Radial Growth and Stem Respiration of Red Maples (Acer rubrum) Trees in a Mixed-Hardwood Forest." *Ecosystems. 19: 129-141.* Available online: http://harvardforest.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/2016.Reinmann_Templer_Ecosystems.pdf

6: Campbell, J.L., Ollinger, S.V., Flerchinger, G.N., Wicklein, H., and K. Hayhoe. 2011. "Past and projected future changes in snowpack and soil frost at the Hubbard Brook Experimental Forest, New Hampshire, USA." Publications from USDA-ARS / UNL faculty. Paper 557. Available online: http://digitalcommons.unl.edu/usdaarsfacpub/557/



Above, a diagram showing just what the one might find beneath the various snow zones.
Source: *www.newconaturalist.wordpress.com/2015/01/09/the-subnivean-world/*

Contribute to the Messenger!

Know a thing or two about nature and wildlife? Have a story, photo or observation to share? Maybe you write nature poetry? We'd love to hear your ideas! Email info@huyckpreserve.org with the subject line "Contribute to the Newsletter" and your piece could be featured in the next edition of the *Myosotis Messenger!*

Our Timeline:
Following the History of the Huyck

July 10, 1838
Francis Conkling Huyck, Sr is born


Edmund Niles "Teddy" Huyck

May 17, 1866
Edmund Niles Huyck is born

1878
The Huyck-Waterbury Mill dissolved due to loss of resources and skilled labor. Huyck relocated to Albany to form Kenwood Mills


Huyck-Waterbury Mill

1912
Edmund Niles Huyck purchases Lincoln Pond Cottage from the Levi Lincoln Farm to use as a summer fishing retreat

July 4, 1907
Francis Conkling Huyck, Sr died

1870
Francis Huyck joined Henry Waterbury to form the Huyck-Waterbury Mill which manufactured paper felt


Donald Griffin

193_
Donald Griffin, one of the Preserve's first Summer Research Fellows, discovered bat ecolocation at Lincoln Pond which was later used to develop Sonar

1932
Endowment established to support the future of the Preserve.

September 24, 1938
Biological Field Station established for a three-year trial

July 1930
Edmund Niles Huyck died


Arial view of part of the original 450 acre parcel that is now the Huyck Preserve

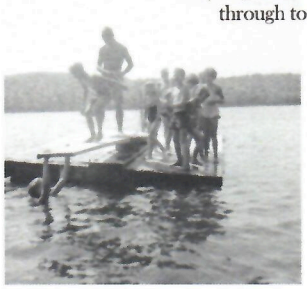
1942
The Board approved to make the Research Station permenant

September 5, 1931
Edmund's wife, Jessie Van Antwerp Huyck, establishes E.N.H. Preserve to honor her late husband and "to preserve the natural beauty of the Rensselaerville Falls, Lake Myosotis, Lincoln Pond and the land around them... and to increase the general knowledge and love of nature"

1939
Eugene Odum, considered the father of ecosystems ecology, was the Preserve's first resident naturalist.

1960's
Ecologist Gene Liken did some of his earliest research at the Huyck Preserve and is known as the first person to link the burning of fossil fuels to acid rain. He later founded the Carey Institute of Ecosystem Studies

1948
Swim lessons and Nature Study began and continue through today



1956
Guided hikes established and provided by visiting scientists

July 15, 1959
Jessie Huyck passed away


Jessie Huyck, circa 1920


Gene Liken

1963
The Huyck House, located on the property of the Carey Institute for Global Good, was formerly used as Edmund and Jessie's summer residence. The home and surrounding property was donated to create the Institute of Man and Science

1983
Annual Science Symposium instituted

1996
Natural History Artist Residency implemented in partnership with New York State Museum


Huyck House at the Carey Institute of Man and Science

2000
Natural History Day Program for middle school children established


View from Partridge Path Loop 3

2011
Partridge Run Loops developed in-part through a grant awarded by ZBGA, extending our trail system to 12 miles

2012
Wildlife Ecology Research Program established as a residential education program for junior and senior students

Sprout Spot

Entertainment for the young and young at heart

Did you know...?

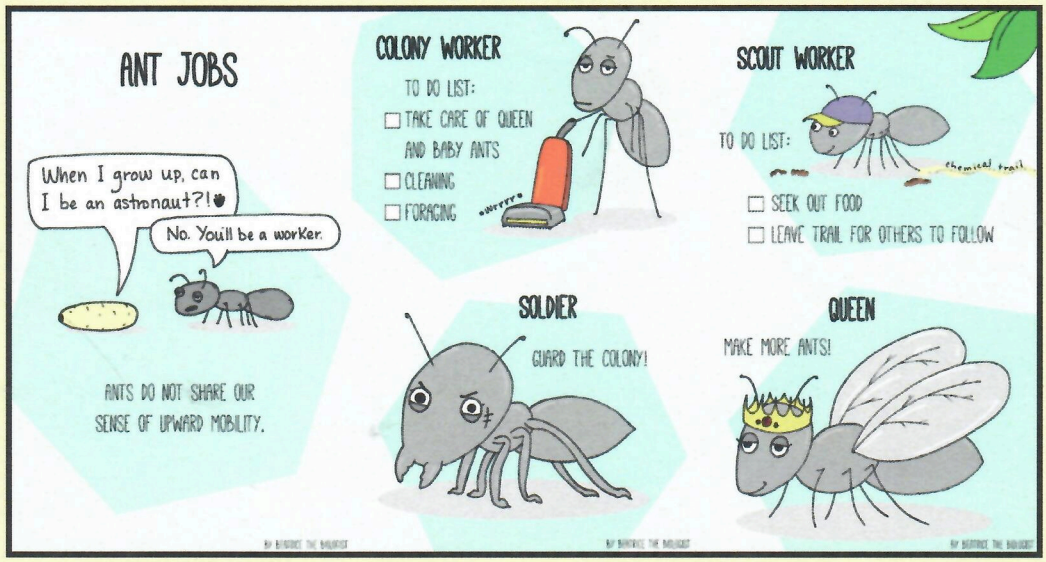
In honor of Earth Day, check out some of these interesting facts!

...The first Earth Day on April 22, 1970 was celebrated by over 20 million people in the U.S. Currently, it's estimated that more than a billion people celebrate Earth Day in 180 countries across the globe!
Source: http://www.softschools.com/facts/holidays/earth_day_facts/156/

...The average US. Household generates 650 lbs. of compostable materials each year. I.e. food scraps and other organic garbage which creates methane, a greenhouse gas 20 times stronger than carbon dioxide.
Source: http://extension.psu.edu/plants/gardening/news/2013/some-composting-facts; http://gogreencyclopedia.blogspot.com/2013/09/50-facts-about-your-environment-for-kids.html

...An automatic dishwasher uses less hot water than doing dishes by hand: an average of six gallons less per cycle, or over 2,000 gallons per year.
Source: http://earthecho.org/news/did_you_know_some_interesting_facts_about_the_environment

Ever been curious what it's really like to work as an ant? Take a look at this humorous comic brought to you by **Beatrice the Biologist!**

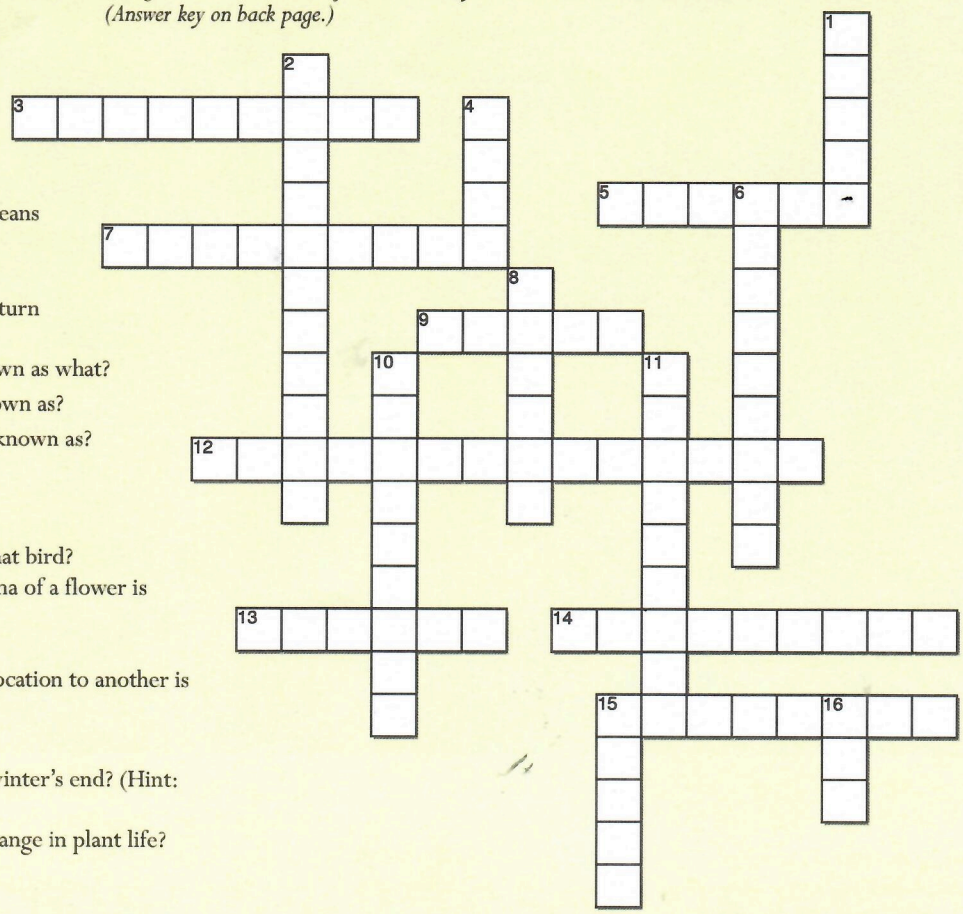


Be sure to check out more delightful graphics from the science-wiz herself at

www.beatricethebiologist.com!

Science, Nature, Biology – Oh My!

Test out your knowledge of these science and nature based facts and terms to see just how much you know about the natural world.
(Answer key on back page.)



Across:

3. A tree or shrub that loses its leaves in the winter is considered..?

5. What part of a flower produces pollen?

7. Several animals such as rabbits eat plants only. This means they are?

9. Plant life is also known as...?

12. The process of plants using energy from sunlight to turn carbon dioxide into food is known as what?

13. The uppermost level of vegetation in a forest is known as what?

14. All living and non-living things in a given area is known as?

15. The area of biology devoted to the study of fungi is known as?

Down:

1. In folk belief, Spring has begun with the arrival of what bird?

2. The movement of pollen from the anthers to the stigma of a flower is known as what?

4. A trailing or climbing plant is known as what?

6. The process in which birds move from one seasonal location to another is referred to as what?

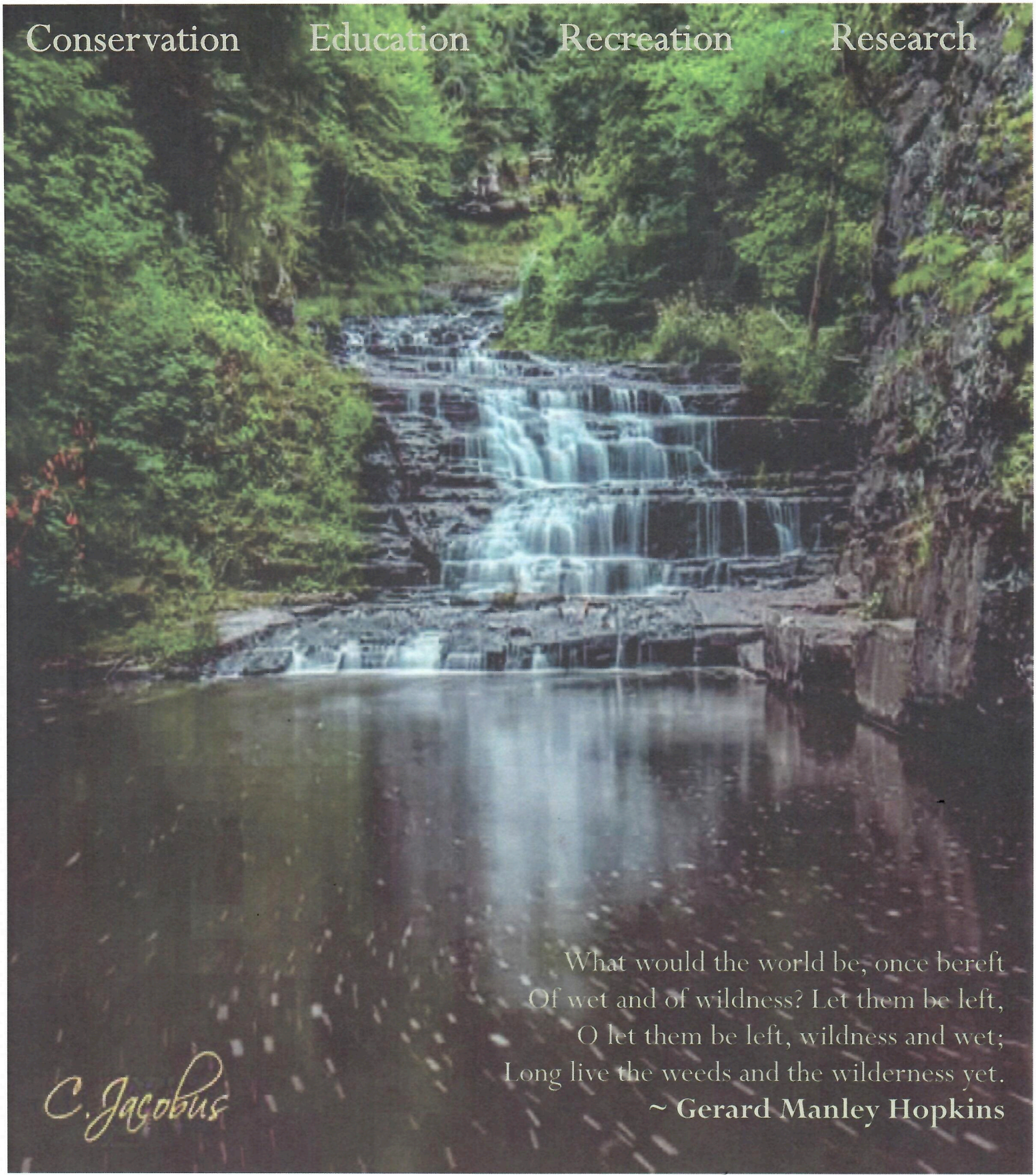
8. The scientific study of plant life is known as what?

10. White blossoms that grow in early spring to signal winter's end? (Hint: two words, using no spaces)

11. Word used to describe the observational seasonal change in plant life?

15. A wetland area with several plants is called what?

16. An acorn is the fruit of which tree?



Answer Key for Sprout Spot:

Across: *3. Deciduous 5. Stamen 7. Herbivore 9. Flora 12. Photosynthesis 13. Canopy 14. Ecosystem 15. Mycology*
Down: *1. Robin 2. Pollination 4. Vine 6. Migration 8. Botony 10. SnowDrops 11. Phenology 15. Marsh 16. Oak*

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